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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/611,269	07/06/2000	Seiji Hashimoto	35.C14610	4807
5514	7590	01/14/2004	EXAMINER TRAN, NHAN T	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			ART UNIT 2615	PAPER NUMBER 9
DATE MAILED: 01/14/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/611,269

Applicant(s)

HASHIMOTO, SEIJI

Examiner

Nhan T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 31 and 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,8 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I, claims 1-30, in Paper No. 7 is acknowledged.

Drawings

2. Figures 1 – 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4, 7, 10-11, 16, 18 & 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Shigeki et al (JP 61-128681).

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Regarding claim 1, Shigeki discloses an image pickup apparatus comprising:

a plurality of pixels including photoelectric conversion means for converting an optical signal from an object into an electrical signal and read means for reading out the signal from the photoelectric conversion means (see Figs. 3 & 8 and Abstract);

difference means (16) for performing difference processing on a noise component (smear component) contained in the signal read by the read means; detection means (291, 292) for detecting an image pickup condition; and correction means (integrated circuit in deducing circuit 16, and further circuit 49) for performing correction of execution of difference processing in accordance with an output from the detection means (see Fig. 8 and Abstract, wherein the output signals of amplifiers 151, 152 are detected by comparators 291, 292 and when amplitudes thereof exceed the electric potential, the deduction is not carried out by the deducing circuit 16).

Regarding claim 4, Shigeki discloses the deducing circuit 16 is controlled to perform or not to perform difference operation (see Abstract).

Regarding claim 7, also as disclosed by Shigeki, when the deduction is not carried out at circuit 16, circuit 49 replaces the signal containing pickup signal component and smear/noise component output from the deducing circuit with only the pickup signal component by eliminating the smear/noise component (see Abstract).

Regarding claim 10, the claimed limitations are analyzed in claim 1.

Regarding claim 11, the claimed limitations are analyzed in claim 4.

Regarding claim 16, the claimed limitations are analyzed in claim 1.

Regarding claim 18, the claimed limitations are analyzed in claim 4.

Regarding claim 20, the claimed limitations are analyzed in claim 7.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-3, 5-6, 8-9, 12-15, 17, 19 & 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigeki et al (JP 61-128681) in view of Levine (US 4,644,287).

Regarding claims 2 & 3, although Shigeki teaches two detection means (291 and 292) to detect a sum of signal level and noise level in reference to a predetermined level and deduction operation is performed when the sum exceeds the predetermined value, Shigeki does not

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explicitly teach that the signal level and noise level are separately detected. However, as taught by Levine, it is well known to provide two separate detectors (27 & 28) for separately detect the signal level and noise-only level generated in each pixel sensor, and the outputs of the two detectors are differentially combined for substantially reducing the noise component (see Fig. 1 and col. 2, lines 44-54).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the image pickup apparatus in Shigeki to enable two separate detection means for detecting a signal level of a signal generated by the photoelectric conversion means when the signal level is higher than a predetermined value as well as for detecting a signal level of noise level generated in each pixel when the signal is higher than predetermined value so that an accurate noise detection and removal process would be realized.

Regarding claims 5 & 6, the claimed limitations are analyzed in claim 4.

Regarding claims 8 & 9, the claimed limitations are analyzed in claim 7.

Regarding claims 12 – 15 & 17, the claimed limitations are analyzed in claims 1 – 3.

Regarding claim 19, the claimed limitations are analyzed in claim 4.

Regarding claim 21, the claimed limitations are analyzed in claim 7.

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5. Claims 22 – 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigeki et al (JP 61-128681) in view of So et al (GB 2,329,959).

Regarding claims 22 - 24, Shigeki does not teach an active pixel sensor that includes amplification means, reset means for resetting an input of amplification means and transfer means for transferring the signal from the photoelectric conversion means to the amplification means. As taught by So, an active pixel sensor with an electronic shutter is capable of obtaining an auto exposure function. The active pixel sensor comprises a transfer gate (M4) for transferring signal from photoelectric conversion element (D1) to an amplifier (M2) through a storage means (M5) which is reset in accordance with an electric charge resetting signal (see Fig. 2 and Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art to enhance the image pickup device in Shigeki by implementing the active pixel sensor technology as taught by So so as an autoexposure function is actively performed in the pixel sensor utilizing the charge transfer means, storage means, amplifications means and reset means.

Regarding claims 25 – 27, the claimed limitations are respectively analyzed in claims 22 – 24.

Regarding claims 28 – 30, the claimed limitations are respectively analyzed in claims 22 – 24.

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Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (703) 605-4246. The examiner can normally be reached on Monday - Thursday, 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

NT.



ANDREW CHRISTENSEN
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